

UTS-Nr.: 999 QUELLE
Best.Nr.: 1031921/01
Ger.Bez.: UNIVERSUM-MINI-ANLAGE

GKz: G GERAET
WGT: 650 MICRO-/MINI-ANLAGEN
KD-Sektor: R RUNDFUNK
BaumNr.: 00 KEIN DIAGNOSEBAUM VORHANDEN
Klassierung: STK STEREOKOMBINATION
IFW-FehlerGru.: 205 RDF., VERST., TB., PHONO, CD, CB
Type/Privileg/Universum.Nr VTC-CD3075
Beschreibung DPL-ANLAGE
VK-Preis: 499.00

Serviceart: 01 QUELLE-TKD
Garantie fuer Kunden 06 Monate
Sondervereinbarungen: 0 SIEHE SERVICEART
Garantiereparatur 9999999 QUELLE

Technische Daten

Netzanschluß:
230 V ~ +6/-10% 50 Hz
Leistungsaufnahme:
185 Watt
Abmessungen in cm. ca.:
B 28,0 x H 33,0 x T 33,0 cm
Verstärkerteil
Maximale Ausgangsleistung:
2 x 150 Watt bei Stereobetrieb

Pro-Logic-Betrieb
Maximale Ausgangsleistung:
2 x 150 Watt Hauptlautsprecher
2 x 70 Watt SURROUND links/
SURROUND rechts
1 x 70 Watt CENTER-Kanal

Frequenzgang:
Dolby Surround 100 Hz bis 7 kHz,
Matrix 20 Hz bis 20 kHz

Signal-/Rauschverhältnis (im Surround-
Betrieb): >75 dB

Verzögerungszeit:
20 ms; im Dolby-Betrieb auf
15 und 25 ms umschaltbar

Verzögerungsverfahren:
digital

Eingangsempfindlichkeit (Line-Eingang):
250 mv

Eingangsimpedanz:
47 k Ohm

Maximale Eingangsspannung:
3,5 V

Lautsprechermindestimpedanz:
4 Ohm (Anschlußwert)

Betriebsarten:
Dolby Pro Logic, Dolby 3 Stereo,
Stereo/Mono

SURROUND
Lautsprecheranschluß, 8 Ohm

CENTER
Lautsprecheranschluß, 4 Ohm
R = rechter Kanal; L = linker Kanal

CD-Spieler
Optischer Tonabnehmer:
3-Strahlen-Laser

Fehlerkorrektur:
CIRC

D/A-Umwandler:
16-Bit-linear mit 8-fach
Oversampling

Cassettenteil
**Übertragungsbereich Aufnahme-/Wieder-
gabe:** (-8 dB) 63 Hz - 12500 Hz

Geschwindigkeitsabweichung:
1,0 %

Tonband: Normal-Cassetten

Radiobetrieb

Übertragungsbereich:
von 40 Hz.-16 kHz 1,5 dB

Übersprechdämpfung:
30 dB bei 1000 Hz

FM-Bereich (UKW)
87,5 - 108 MHz

Empfindlichkeit:
6 µV
Hub: 22,5 kHz
und S/R - 26 dB
40 µV

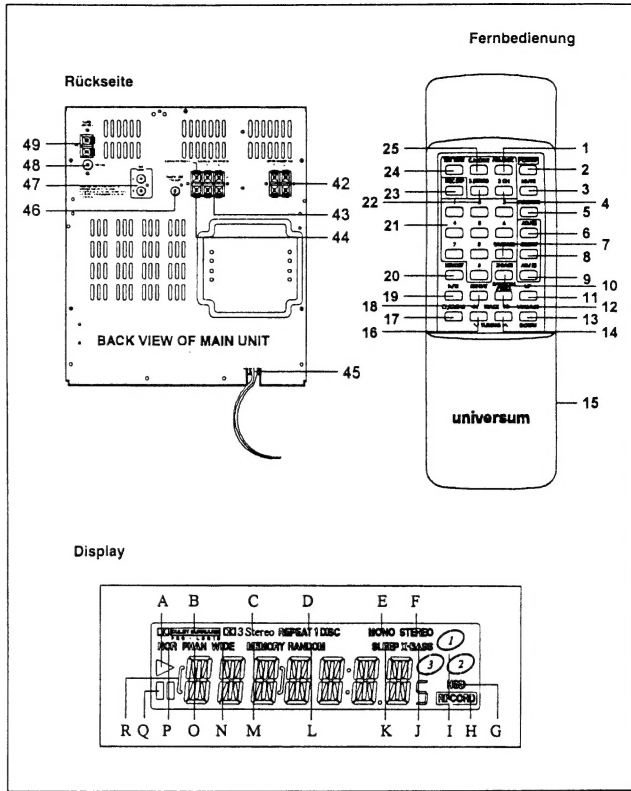
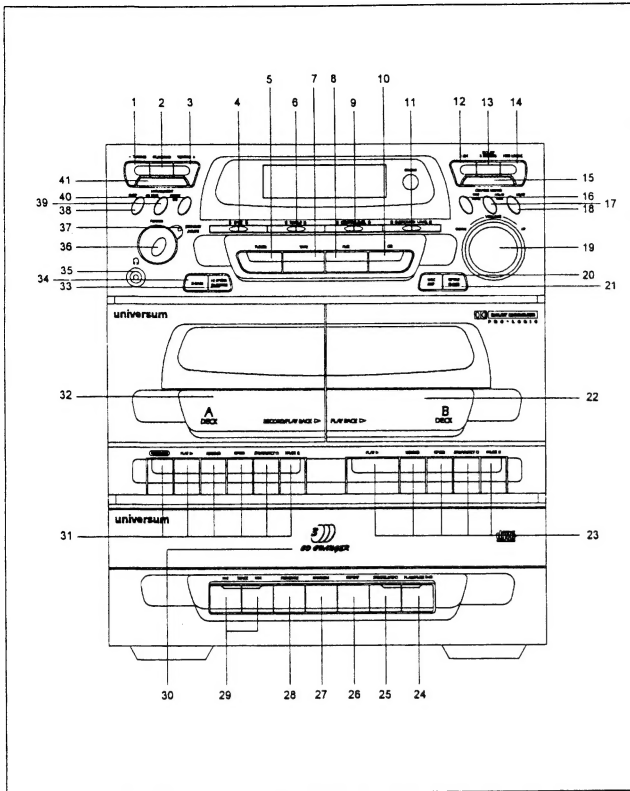
Hub: 40 kHz
S/R: 46 dB

Fremdspannungsabstand:
>50 dB

Pilotunterdrückung:
19 kHz = 40 dB
38 kHz = 50 dB

MW-Bereich
MW 521 - 1620 kHz

Empfindlichkeit für
MW 1500 µV, 26 dB S/N



Bedienungselemente und Funktionen

- ① **TUNING** ▽ = Einstellen der Frequenz nach unten (niedrigere Frequenzen)
 ② **ST./MONO** = Stereo/Mono-Umschaltung
 ③ **TUNING +** = Einstellen der Frequenz nach oben (höhere Frequenzen)
 ④ **BASS** = Regeln der Tiefen +/- 7 dB
 ⑤ **TUNER** = Radiobetrieb
 ⑥ **TREBLE** = Regeln der Höhen +/- 7 dB
 ⑦ **TAPE** = Cassettenwiedergabe
 ⑧ **AUX** = Wiedergabe von Zusatzgeräten
 ⑨ **CENTER LEVEL** = Lautstärkeeinstellung Mitte +/- 10 dB
 ⑩ **CD** = CD-Wiedergabe
 ⑪ **SURROUND LEVEL** = Lautstärkeeinstellung der Surround-Lautsprecher +/- 10 dB
 ⑫ **2 CH** = Zweikanal-Wiedergabe (Mono/Stereo)
 ⑬ **3 STEREO** = DOLBY-Stereo (3 Kanal-Wiedergabe)
 ⑭ **PRO-LOGIC** = 5 Kanal-Wiedergabe
 ⑮ **CENTER MODE** = Wahl der Center-Betriebsart **NOR** (Normal)/**PHAN** (Phantom)/**WIDE** (Weit-Spektrum)
 ⑯ **TEST TONE** = Testsignal zur Abstimmung aller Pegel
 ⑰ **DELAY TIME** = Surround-Zeitverzögerung zur Darstellung von Raumgröße
 ⑱ **MUTE** = Stummschalten der Lautstärke
 ⑲ **VOLUME** = Lautstärkeregler
 ⑳ **OPEN CLOSE** = Öffnen/Schließen der CD-Schublade
 ㉑ **DISC SKIP** = Wahl des CD-Faches 1, 2 oder 3
 ㉒ **Cassettenfachdeckel DECK B**
 ㉓ **Laufwerktasten für DECK B** (nur Wiedergabe)
 ㉔ **PAUSE II** = Pause/Unterbrechen der Wiedergabe
 ㉕ **STOP/EJECT** ■ = Beenden der Wiedergabe/Öffnen des Cassettenfachdeckels
 ㉖ **F.FWD** = Schneller Vorlauf
 ㉗ **REWIND** = Schneller Rücklauf
 ㉘ **PLAY** ▶ = Cassetten-Wiedergabe
 ㉙ **RECORD** = Aufnahmetaste
 ㉚ **Cassettenfachdeckel DECK A**
 ㉛ **HI SPEED DUBBING** = Wahl der Kopiergeschwindigkeit
 ㉜ **X BASS** = Einschalten des Extra-Baß-Systems
 ㉝ **⌂** = Kopfhörerbuchse (3,5 mm Ø)
 ㉞ **POWER** = Netzschalter
 ㉟ **STANDBY/MUTE** = Anzeige leuchtet bei Bereitschaft, blinkt bei gewählter MUTE-Funktion
 ㊱ **SLEEP** = Wählen der Ausschaltzeit
 ㊲ **CD-TIME** = Wahl der CD-Spieler Anzeige
 ㊳ **PRESET EQ** = Wahl des Klangbildes **MANUAL**, **CLASSIC**, **ROCK** oder **PDP**
 ㊴ **MEMO/NEXT** = Senderspeichertaste
- Rückseite**
 ㊵ **FRONT SPEAKER** = Stereolautsprecheranschluß **R** = rechter Kanal, **L** = linker Kanal (rot/schwarz)

- ㊶ **SURROUND SPEAKER**-Anschlüsse 8 Ω
R = Rechter Kanal,
L = Linker Kanal (grau/schwarz)
 ㊷ **CENTER** = Lautsprecheranschluß 4 Ω (blau/schwarz)
 ㊸ **AC** = Netzanschluß 230 Volt~/50 Hz
 ㊹ **SUB WOOFER AMP OUT** = Ausgang für einen Aktiven Subwoofer (Basslautsprecher)
 ㊺ **AUX-INPUT R/L** = Anschluß für Zusatzgeräte; **R** = rechter Kanal (rot), **L** = linker Kanal (weiß)
 ㊻ **FM/75 Ω** (UKW) = Antennenbuchse
 ㊼ **AM** (MW) = Antennenanschlüsse

Fernbedienung

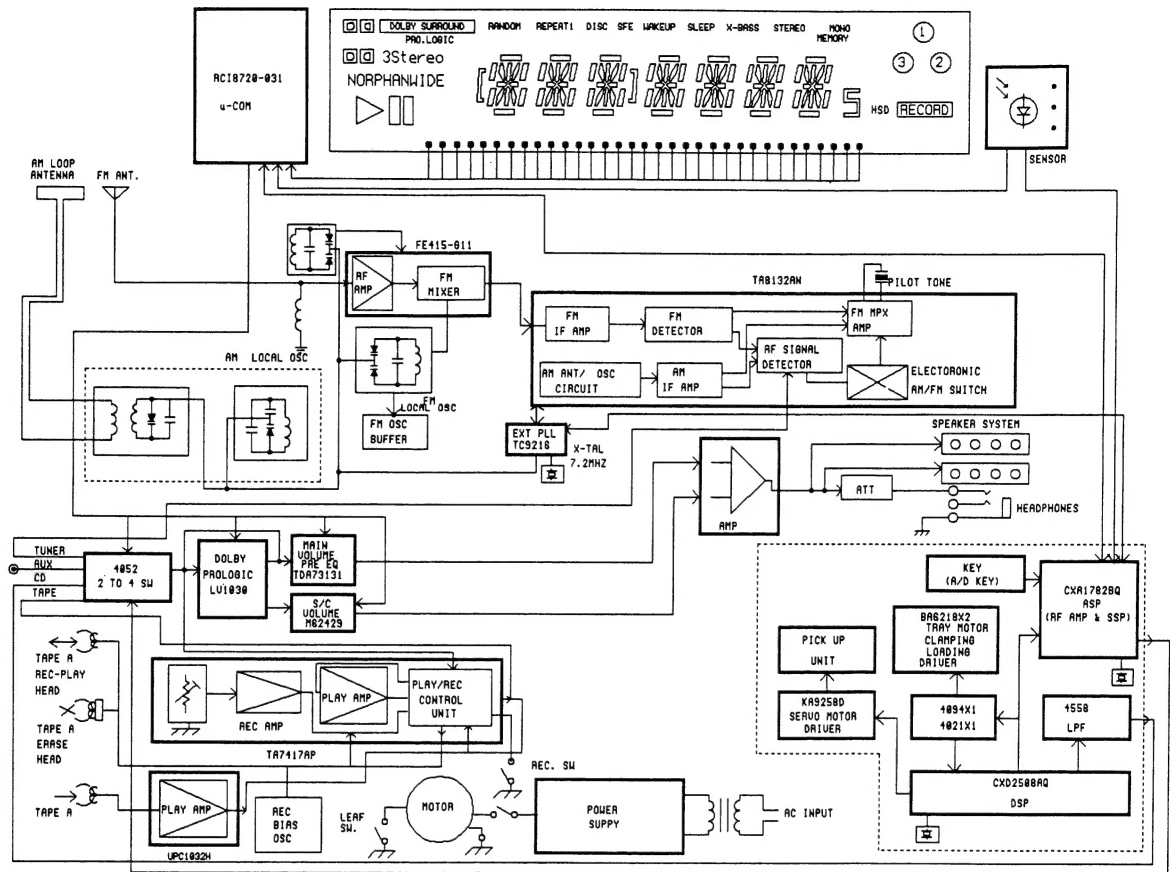
- ① **PRO LOGIC** = 5 Kanal-Wiedergabe
 ② **POWER** = Abschalten auf Bereitschaft
 ③ **MUTE** = Stummschalten der Lautstärke
 ④ **2 CH** = Zweikanal-Wiedergabe (Mono/Stereo)
 ⑤ **FUNKTION** = Funktionswahl **CD**, **TAPE**, **AUX**, **FM 1**, **FM 2** und **AM**
 ⑥ **ADJ +** = Erhöhen von Balance, Bass und Treble
 ⑦ **9/MONO** = Stereo/Mono-Umschaltung
 ⑧ **SELECT** = Funktionswahl von Balance, Bass und Treble
 ⑨ **ADJ -** = Absenken von Balance, Bass und Treble
 ⑩ **X BASS** = Einschalten des Zusatz-Bass-systems
 ⑪ **VOLUME-UP** = Erhöhen der Lautstärke
 ⑫ **RANDOM/FREQ** = Zufallswiedergabe/Direktfrequenz
 ⑬ **VOLUME-DOWN** = Absenken der Lautstärke
 ⑭ **TUNING Δ** = Einstellen der Frequenz nach oben (höhere Frequenzen)
 ⑮ **TRACK ▶▶** = CD-Titelwahl vorwärts
 ⑯ **Batteriefach** (Rückseite) für 2 x 1,5 V Mignon-Batterien

- ⑰ **TUNING ▽** = Einstellen der Frequenz nach unten (niedrigere Frequenzen)
 ⑱ **◀◀TRACK** = CD-Titelwahl rückwärts
 ㉑ **■/CLEAR** = CD-Wiedergabe beenden, Programmierung löschen
 ㉒ **REPEAT** = Wiederholung der gesamten CD-Platte, der programmierten Titel oder eines Titels
 ㉓ **▶/II** = CD-Wiedergabe und Unterbrechen
 ㉔ **MEMORY** = Senderspeichertaste
 ㉕ **0 - 8** = Zifferntasten
 ㉖ **3 STEREO** = DOLBY-Stereo (3 Kanal-Wiedergabe)
 ㉗ **DISC SKIP** = Wahl des CD-Faches 1, 2 oder 3
 ㉘ **TEST TONE** = Testsignal zur Abstimmung aller Pegel
 ㉙ **C. MODE** = Wahl der Center-Betriebsart **NOR** (Normal)/**PHAN** (Phantom)/**WIDE** (Weitwinkel)

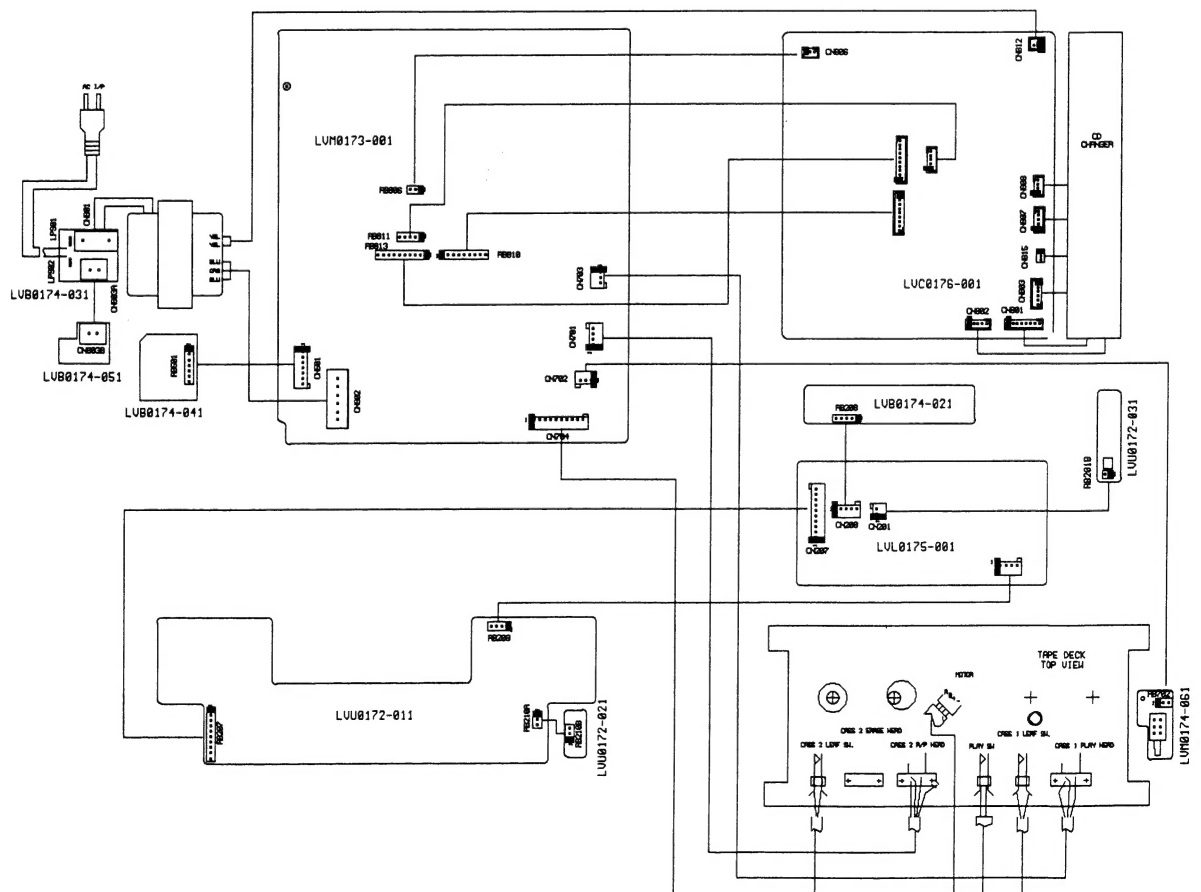
Anzeigen im Display

- Ⓐ **CD-Wiedergabe**
 Ⓑ **DOLBY SURROUND** = Funktion Ein-/Ausgeschaltet
 Ⓒ **3 STEREO** = 3 Kanal-Wiedergabe
 Ⓓ **REPEAT** = Wiederholungsfunktion
 Ⓔ **MONO** = Mono-Wiedergabe
 Ⓕ **STEREO** = Stereo-Wiedergabe
 Ⓖ **HSD** = Anzeige erhöhte Kopiergeschwindigkeit
 Ⓗ **RECORD** = Aufnahme
 Ⓙ **Anzeige der CD-Plattennummer**
 ⓫ **X-BASS** = X-Bass-Funktion eingeschaltet
 ⓬ **SLEEP** = Abschaltautomatik
 ⓭ **RANDOM** = Zufallsreihenfolge
 ⓮ **MEMORY** = Speicherbereitschaft
 ⓯ **WIDE** = Center-Betriebsart
 ⓰ **PHAN** = Center-Betriebsart
 ⓱ **NOR** = Center-Betriebsart
 ⓲ **II** = CD-Pause
 ⓳ **Titelnummer/Frequenzanzeige**

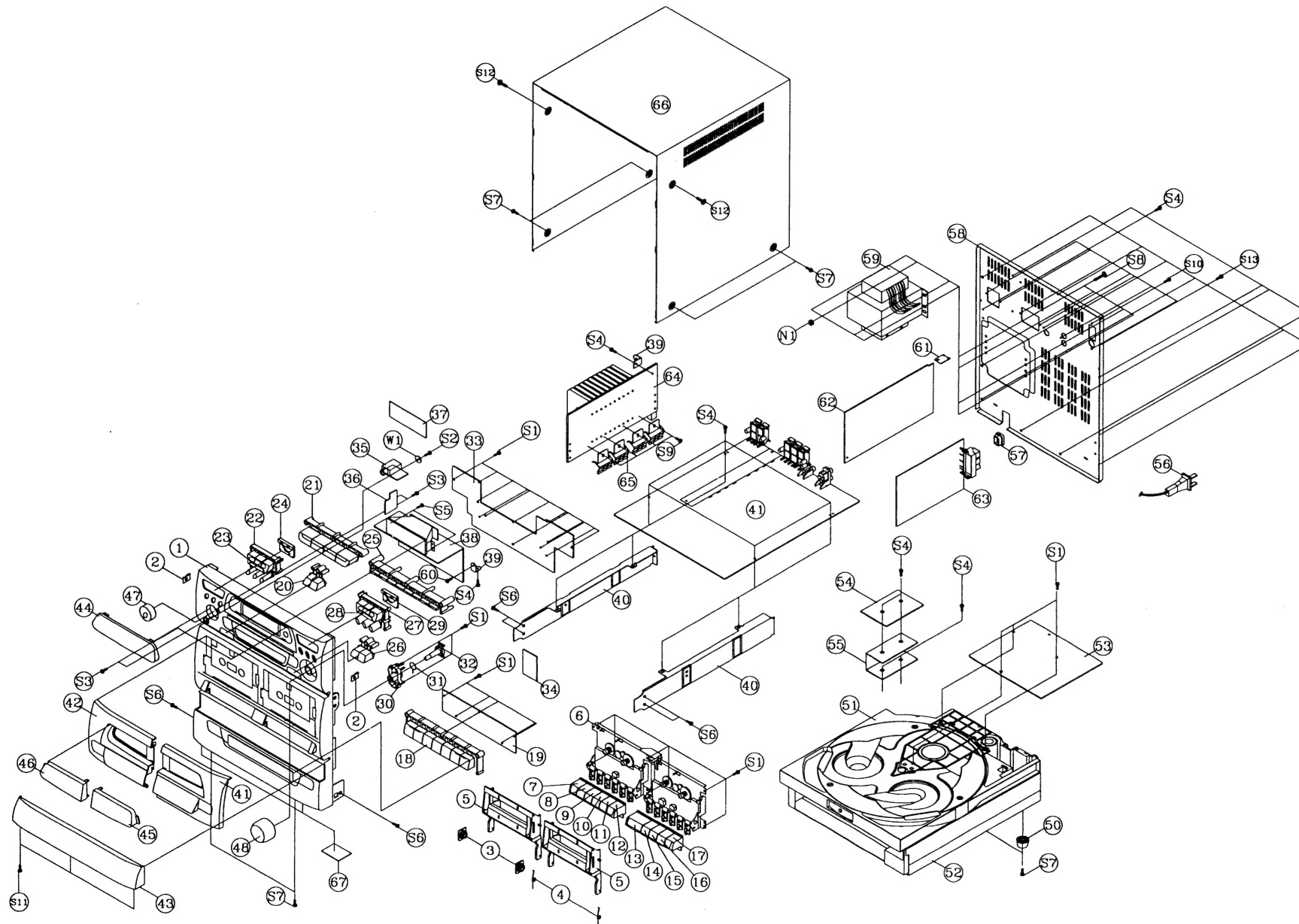
BLOCK DIAGRAM



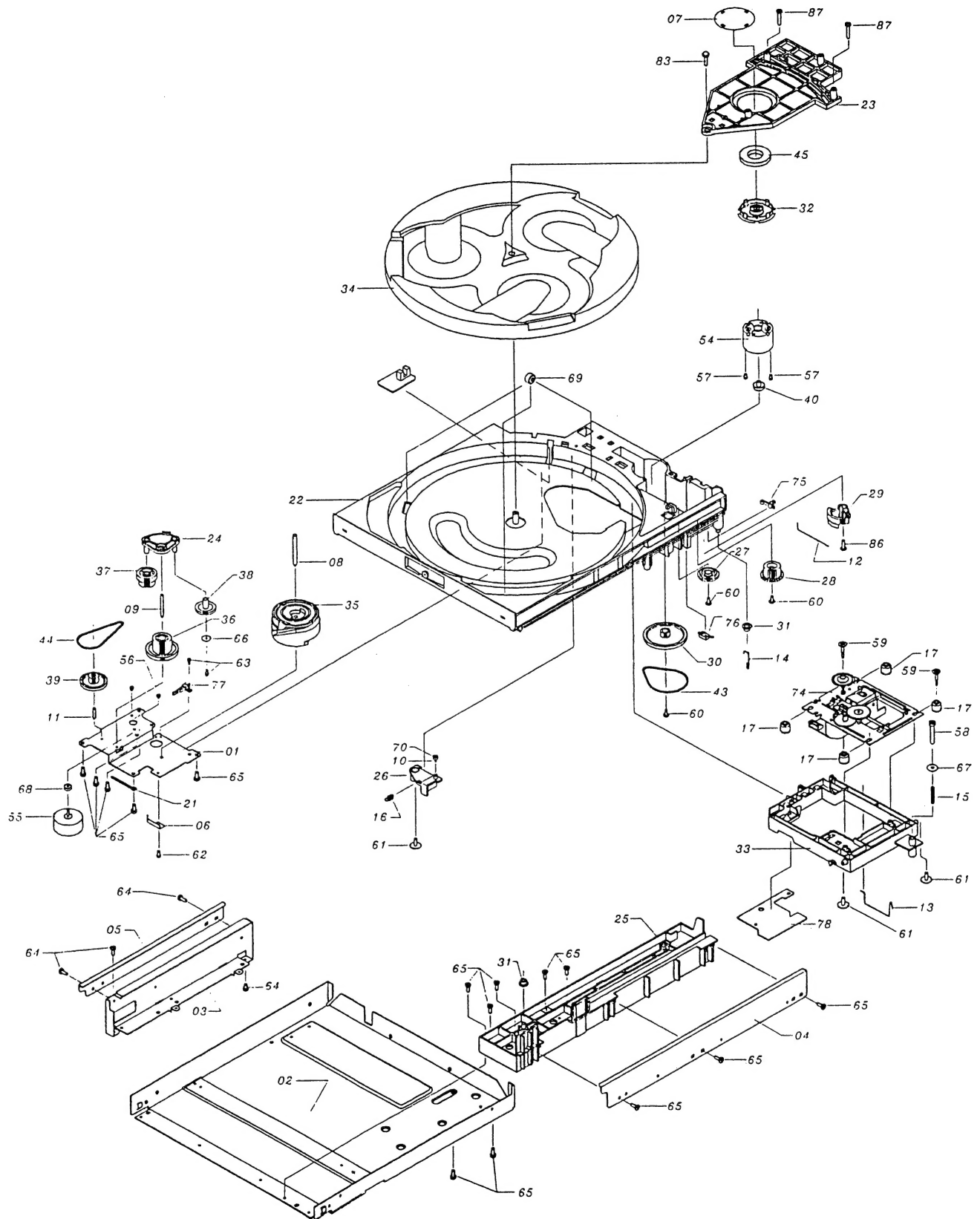
WIRING DIAGRAM



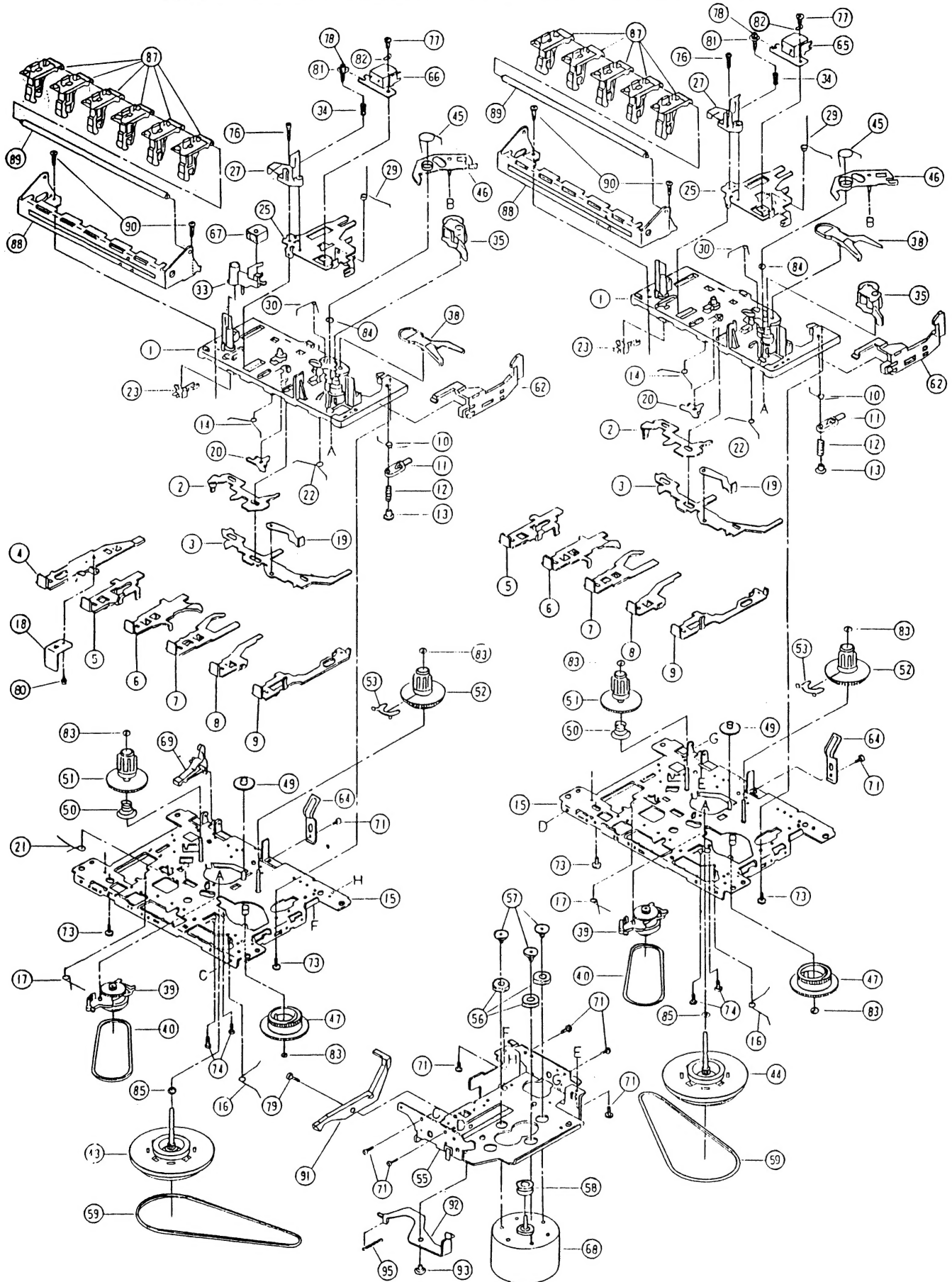
EXPLODED VIEW



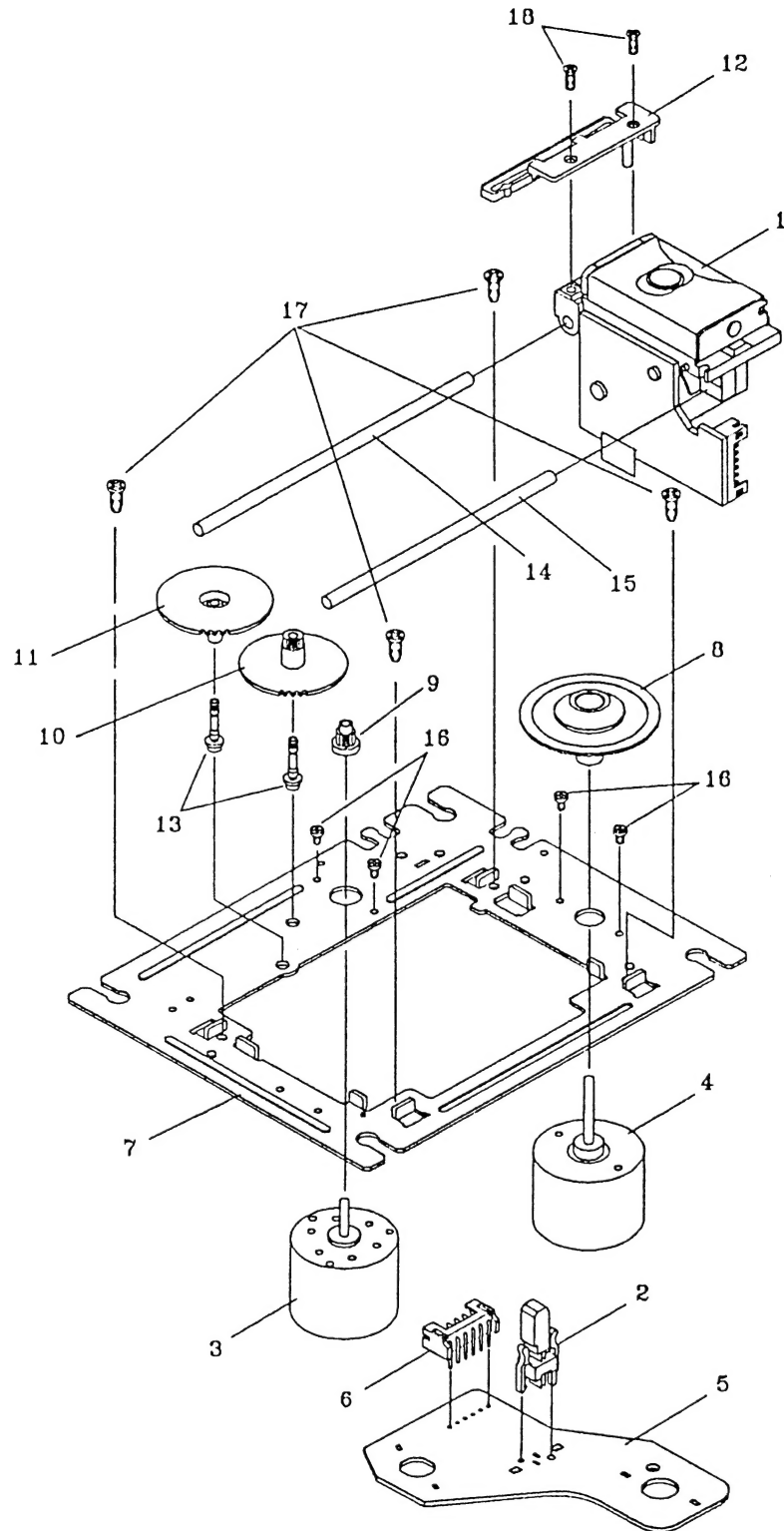
CD CHANGER MECHANISM EXPLODED VIEW



TAPE DECK MECHANISM EXPLODED VIEW



CD MECHANISM EXPLODED VIEW



ALIGNMENT PROCEDURE

Test Conditions

AM (Amplitude Modulation)

Function AM

Input Level 74dB/m (5mV/m)

Generator Modulation 30%, 400Hz

Test Conditions

FM (Frequency Modulation)

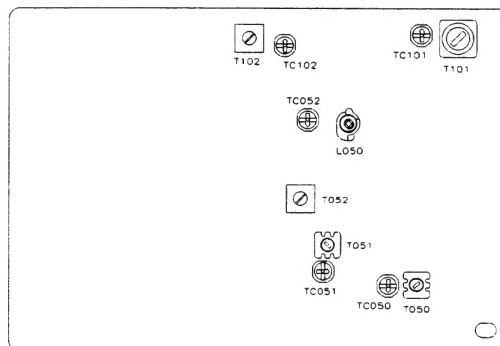
Function FM

Input Level 60dB (1mV)

Generator Deviation 22.5kHz, 1kHz

Step	Signal or Sweep Generator		Reception Frequency	Output Indicator Connection	Adjustment	Adjust For
	Connection	Frequency				
AM TUNING VOLTAGE						
1	No Signal		1620kHz	DC Digital Voltmeter Q201 Pin "C"	TC102	8.3+/-0.05V
2	No Signal		522kHz	Same as Step 1	T102	1.3+/-0.5V
3	Repeat Step 1 and 2 a few times.					
AM IF						
4	AM Loop Antenna at a Distance of 24 inch(60 cm) from the IRT Loop	450kHz	point of noninterference	IF Sweep Generator IC101 Pin 19	T103	Flat and Max
AM TRACKING						
5	Same as Step 4	621kHz	621kHz	RF Sweep Generator IC101 Pin 19	T101	Max
6	Same as Step 4	1404kHz	1404kHz	Same as Step 5	TC101	Max
FM TUNING VOLTAGE						
7	No Signal		108.0MHz	Same as Step 1	Check	7+/-0.05V
8	No Signal		87.5MHz	Same as Step 1	Check	2.3+/-0.5V

ALIGNMENT LOCATION



Cartridge Torque Information Cassette Adjustments

Take Up Torque Adjustment

1. Insert a cassette torque meter type DM 300 or equivalent into the mechanism.
2. Measure the torque of the take-up reel in play back mode. The torque reading should be between 40 and 70 gcm.
3. If torque limit readings are out of limits, replace the take-up reel assy.

Fast Forward/Rewind Torque

1. Insert a 5 RK-CT cassette or equivalent to the mechanism.
2. Fast-forward and rewind the cassette. The fast-forward and rewind torque reading should be between 70 and 160 gcm.
3. If the torque reading is out of limits, replace the clutch assy.
4. Pinch roller torque DM 300 wow/flutter torque reading should be 375 gcm+/-25.

If the torque reading is out limits:

- A. Clean pinch roller.
- B. Replace pinch roller spring or pinch roller assy.

Tape Deck Service Adjustment

Azimuth Adjustments

The cassette door must be removed to make this adjustment.
Refer to the disassembly instructions. For adjusting, insert the cartridge and press the play button.

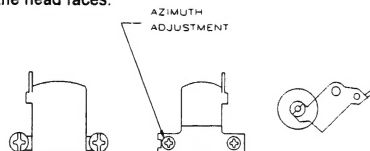
1. Use an MTT test tape No.113CN with right and left channels recorded at 8kHz.
2. Adjust the balance control to center.
3. Adjust azimuth for maximum output on both channels.

Lubricating

Clean all surfaces before lubricating. Apply a few drops of turbine oil to all bearings and rotating bushings. Apply a thin film of light grease to all sliding surfaces and detent rollers. Always wipe excess lubricant from parts. Apply a thin coat of viscous lubricant to plunger operating the cassette door.

Cleaning

All head faces should be cleaned with head cleaner solution or methyl to remove dust and accumulated oxide. (Cotton swab may be used as an applicator.) Do not use a screwdriver or any metallic object near the head faces.



TROUBLESHOOTING GUIDE

Circuit	Symptom	Cause	Remedy
General	No sound (Unit does not work at all.)	Defective ON/OFF IC901	Replace the IC.
		Defective ON/OFF Q902	Replace the transistor
		Defective volume IC401	Replace the IC.
		Defective speaker	Replace the speaker.
		Defective speaker jack	Replace or repair jack.
AM	No sound	Defective in IFT T102	Check voltage and current for this circuit. Replace if necessary.
		Open circuit of CF101	Replace the IF filter.
		Defective AM antenna coil or OSC coil.	Replace or repair as necessary.
	Weak sound (Low sensitivity)	IF Tuning faulty.	Readjust (see alignment instructions).
		RF Tracking faulty.	Readjust (see alignment instructions).
		Defective IF IC101	Check voltage. Replace if necessary.
		Poor contact in antenna circuit.	Check resistance. Replace if necessary.
Cassette	No PLAY	Defective function IC701.	Check voltage and current for this circuit. Replace if necessary.
		Defective PLAY circuit.	Check voltage of PLAY circuit. Repair as necessary.
	No RECORD	Defective RECORD circuit.	Check voltage of RECORD circuit and check RECORD bias circuit. Repair as required.
	Weak sound	PLAY or R/P head is dirty.	Use alcohol to clean the head.

Circuit	Symptom	Cause	Remedy
CD	The sound is poor or distorted or you can hear only one channel.	Disc is dirty or badly scratched.	See if cleaning the disc or using another clean or scratch-free disc improved the situation.
			There is an unwanted object in the disc tray, e.g., a piece of paper or a remnant of packaging.
	Programming is not working.*	Disc is dirty or badly scratched.	See if cleaning the disc helps or try programming a scratch-free disc.
		Microprocseeor has not processed the command properly.	Erase the program by pressing the STOP button twice and store it again; restart and check to see if the fault has been cleared.
			All 50 memory places are already occupied and you have missed the 'P-50' sign that indicates this. Check this by pressing PROGRAM and counting the number of tracks displayed.
	Playback does not begin with the first track number on the disc.	Microprocseeor has not processed the command correctly.	Check by switching the POWER button off and on, and then restart CD player.
	Playback stops before the end of the disc or the program.	Disc is dirty or badly scratched.	See if cleaning the disc or using another, clean or scratch-free, disc clears the fault.
		Disc is defective.	Try another disc and see if that clears the fault.
			There is an unwanted object in the disc tray, e.g., a piece of paper or a remnant of packaging.

ATLE LUL0172-031
VERSION: A0

COMPONENT SIDE

ATLE LUL0172-031
VERSION: A0

TEST
TA267

DELAY
TA241

MUTE
TA248

DISC SKIP OPEN/CLOSE
TA228

TA221
TU_ON

TA220
NR/NEXT

TA222
TU_UP

TA223
ST/PGND

TA224
NR

TA225
M1n

TA226
CD TIME

TA227
SLEEP

TA228
EQ_SK1P

TA229
J1402

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TA241
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TUNER
TA211

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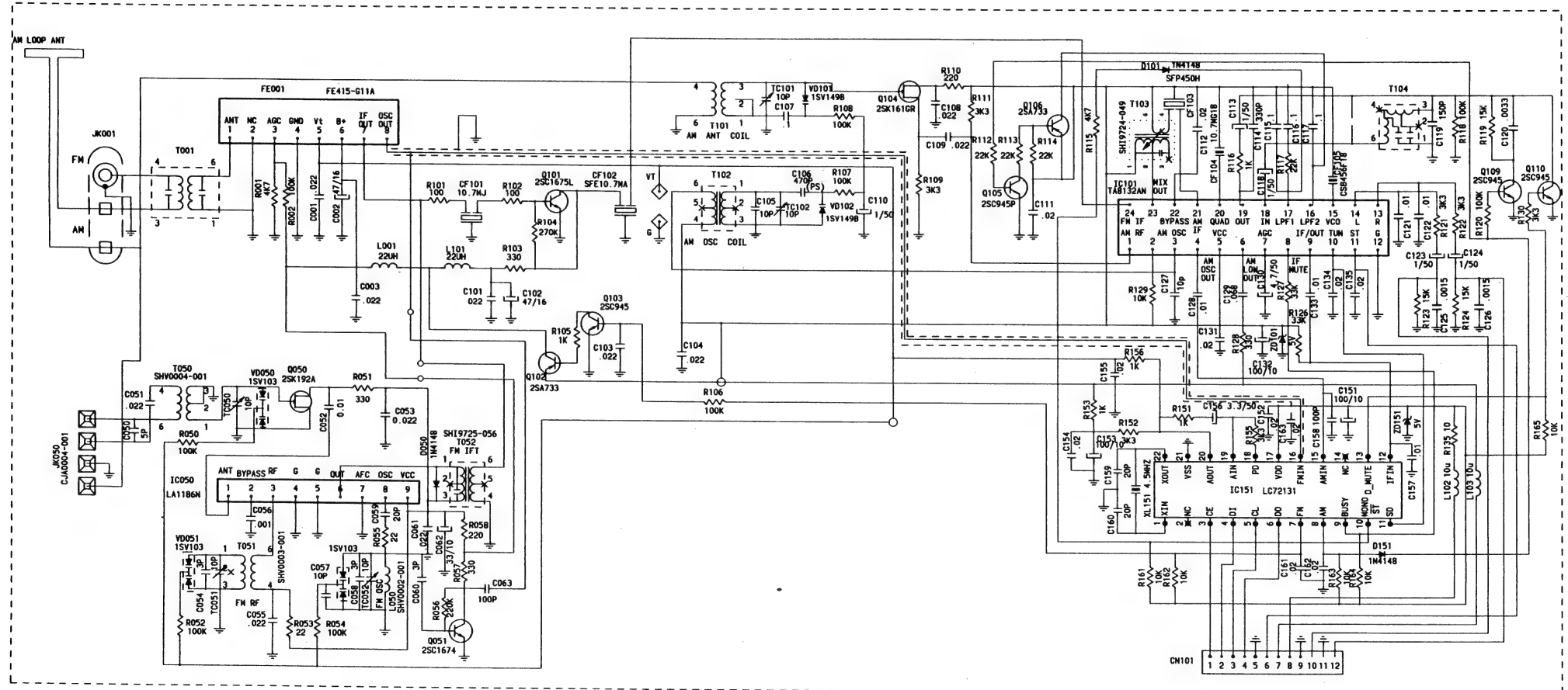
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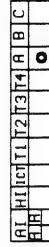
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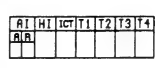
TUNER SCHEMATIC DIAGRAM



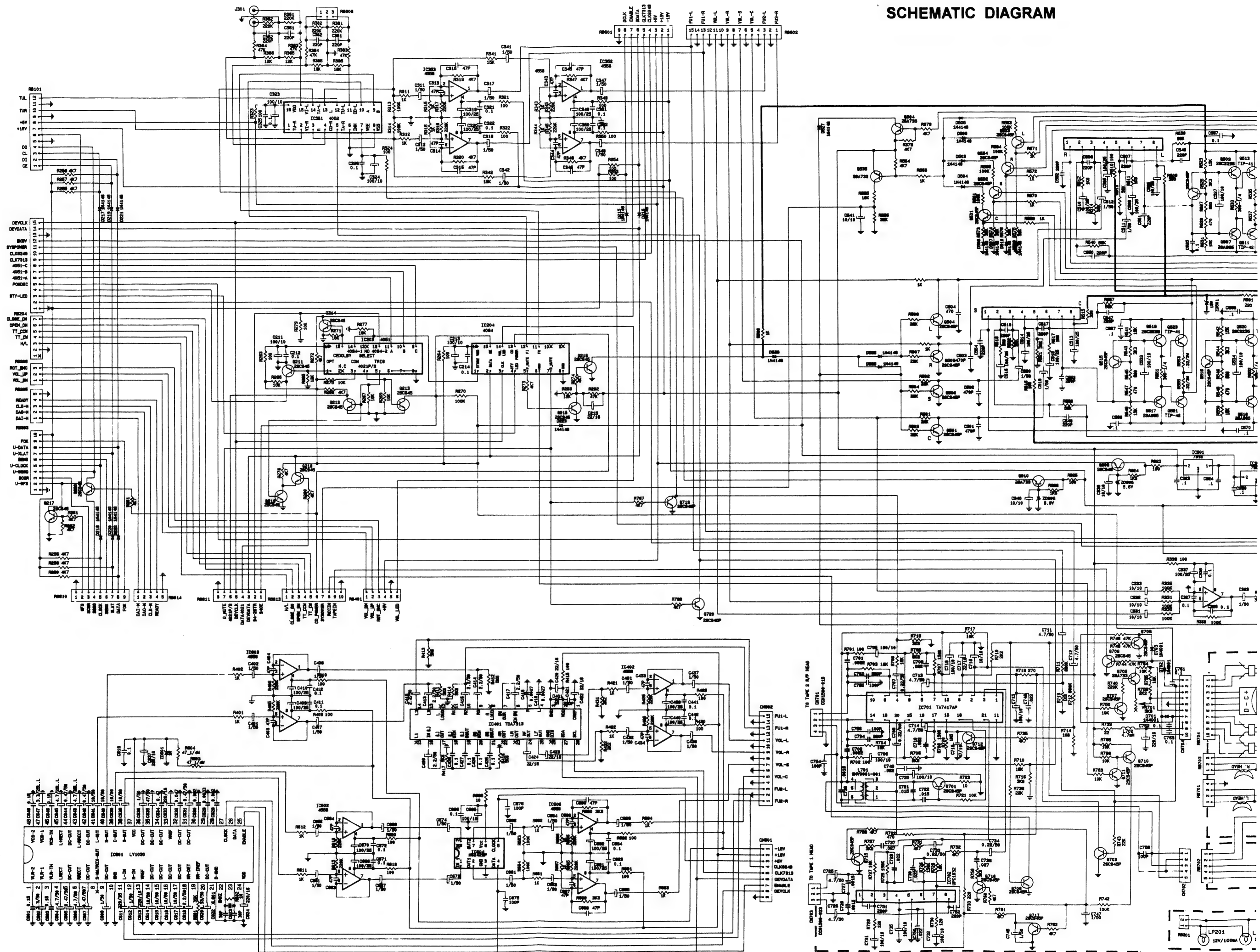
Bottom View



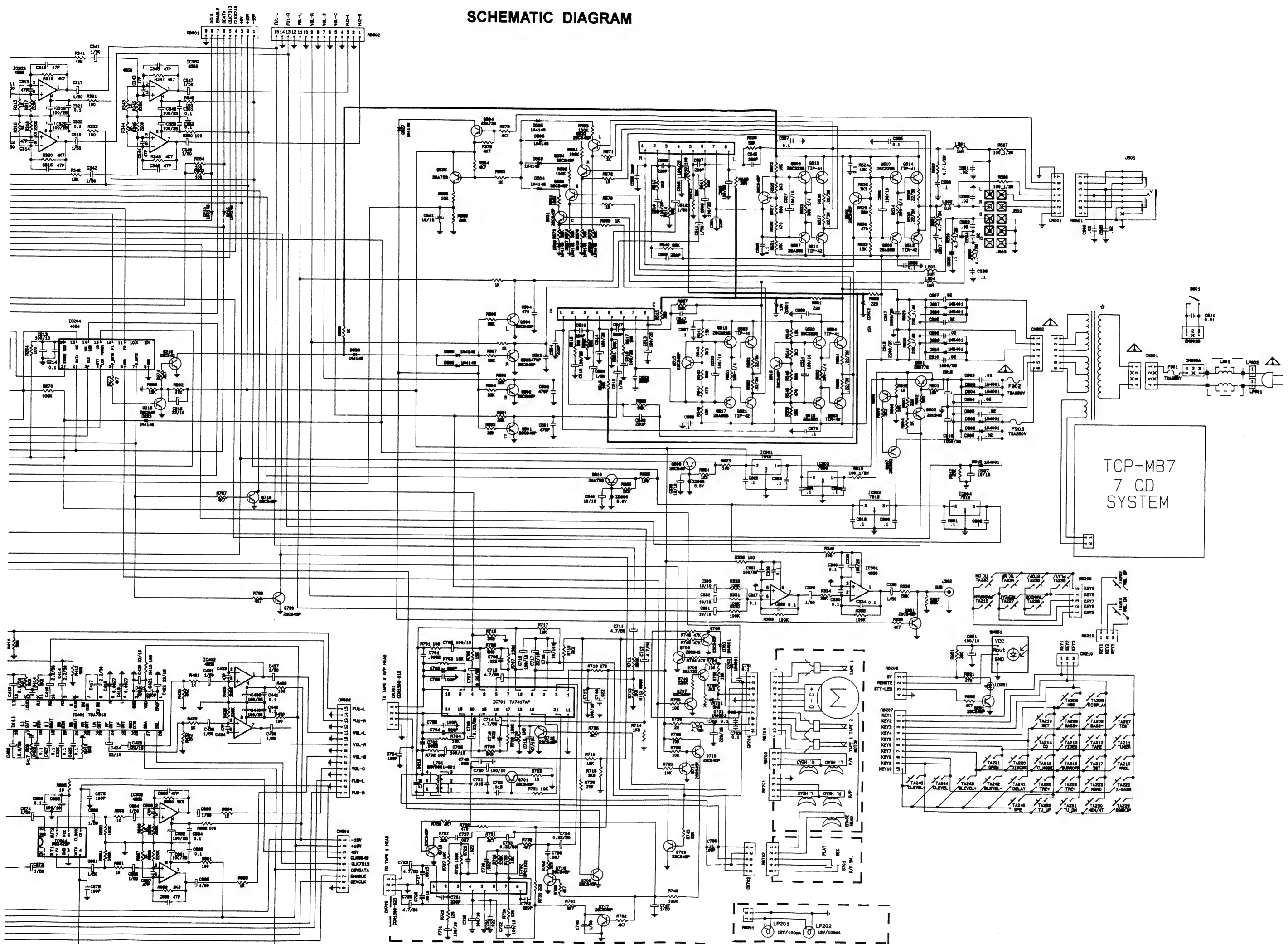
Bottom View



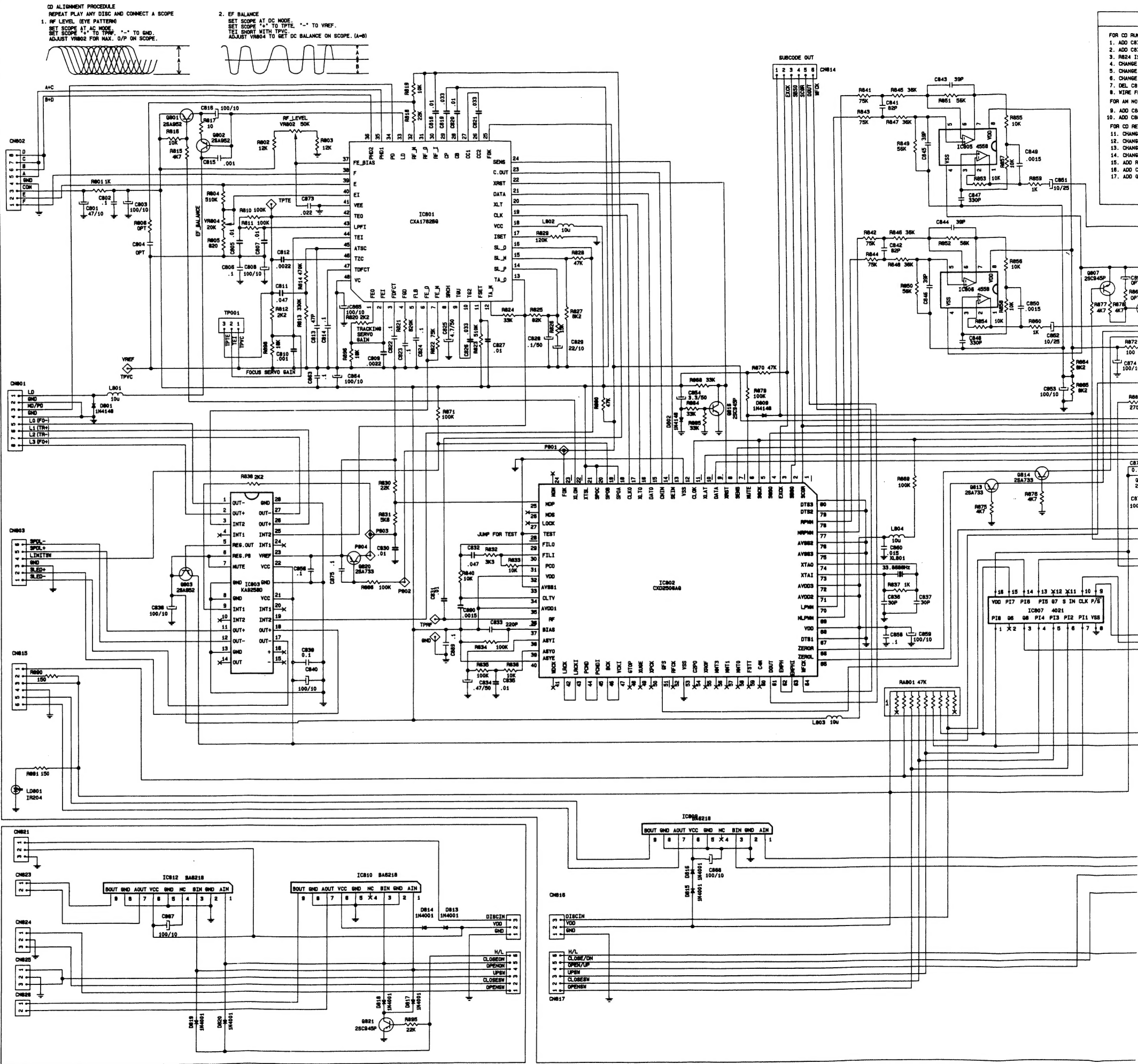
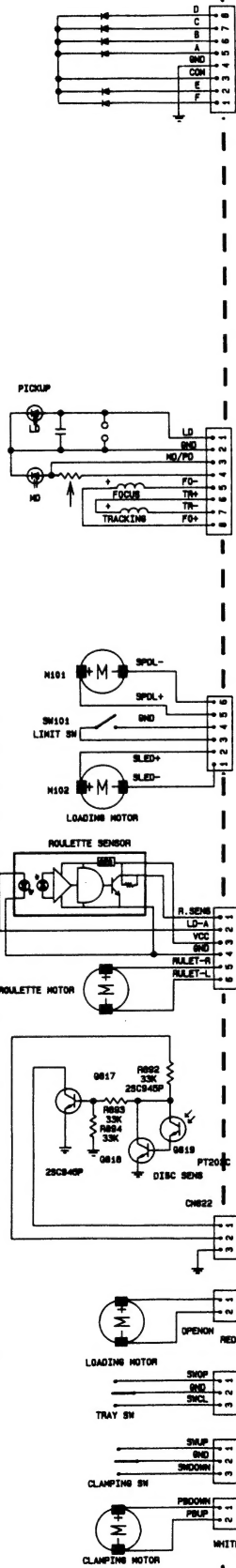
SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



TOHEI TCD-R28
CIRCUIT DIAGRAM



CHANGE LIST

1. FOR CD RUN AWAY
2. ADD CR72 47P FROM CN810 PIN 8 TO GND.
3. ADD CR73 .0025U FROM 100A1 PIN 37 TO GND.
4. R824 IS CHANGED TO 75K OHM.
5. CHANGE R825 FROM 220K TO 82K OHM.
6. CHANGE R828 FROM 27K TO 47K OHM.
7. CHANGE R834 FROM 1K TO 100K OHM.
7. DEL. C810.
8. WIRE FROM SERVO TO CN802 IS CHANGED TO SHIELD CABLE.
9. ADD AN NOISE FROM CD DOOR OPEN/CLOSE 5 DISC SKIP.
10. ADD CR866 100/18V FROM 100A1 PIN 6 TO GND.
11. ADD CR867 100/18V FROM 100A1 PIN 8 TO GND.
11. CHANGE CR828 FROM 10/18 TO 22/10.
12. CHANGE R824 FROM 75K TO 33K OHM.
13. CHANGE R822 FROM 47K TO 75K OHM.
14. CHANGE R826 FROM 33K TO 15K.
15. ADD R886 100K OHM.
16. ADD CR75 .1uF.
17. ADD R808 25A/70V.

MAIN BOARD Bottom View

